CLAIMS:

1. A transducer comprising a piezoelectric member which deforms in use to provide an electrical output; a first electrode arranged on one side of the piezoelectric member and connected to a first output; and a second electrode arranged on an opposite side of the piezoelectric member and connected to a second output, wherein the electrodes are offset so as to provide one or more regions in which the electrodes do not overlap, wherein both electrodes are discontinuous when viewed along a planar cross-section taken across the electrodes, and wherein the electrodes are arranged so that they can be cut in the non-overlapping region(s) without creating a short circuit between the electrodes and without breaking the connections with the first or second outputs.

2. A transducer according to claim 1 wherein the electrodes are formed in offset serpentine patterns.

3. A transducer according to claim 1 wherein the first electrode comprises a plurality of fingers connected in parallel to the first output; and the second electrode comprises one or more fingers arranged between the fingers of the first electrode.

4. A transducer according to ~~any one of the preceding claims~~ claim 1 wherein the first electrode covers a greater area than the second electrode.

5. A transducer according to claim 1 wherein the electrodes comprise diagonally offset rectangular grids.

6. A transducer according to ~~any of the preceding claims~~ claim 1 wherein the piezoelectric member comprises a sheet and the electrodes are arranged on opposed major faces of the sheet.

7. A transducer comprising a piezoelectric member which deforms in use to provide an electrical output; first and second electrodes arranged on opposed sides of the piezoelectric member to pick up the electrical output; and a clamp for releasably securing the electrodes on each side of the piezoelectric member.

8. A transducer according to claim 7 wherein the piezoelectric member comprises a sheet and the electrodes are releasably secured on opposed major faces of the sheet.

9. A transducer according to claim 7 ~~or 8~~ wherein the clamp is sprung so as to resiliently secure the electrodes.

10. A transducer according to ~~any of claims 7 to 9~~ claim 7 further comprising third and fourth electrodes arranged on opposed sides of the piezoelectric member to pick up the electrical output; a first layer of dielectric arranged between the first and third electrodes; and a second layer of dielectric arranged between the second and fourth electrodes, whereby the first and second electrodes couple capacitively with the second and third electrodes.

11. A subject support (such as a seat or bed) in combination with a transducer according to ~~any of the preceding claims~~ claim 1 arranged in or on the subject support to detect signals from a subject occupying the subject support.

12. A method of shaping a transducer comprising a piezoelectric member which deforms in use to provide an electrical output; the method comprising manually cutting the transducer to a desired shape and size.

13. A method according to claim 12 wherein the piezoelectric member comprises a sheet.

14. A method according to claim 12 ~~or 13~~ comprising cutting the transducer with a pair of scissors.

15. A method according to claim 12 ~~any of claims 12 to 14~~ comprising providing a transducer according to claim 1 ~~any of claims 1 to 6;~~ and cutting through the region(s) of non overlap.

16. A method according to claim 12 ~~any of claims 12 to 15~~ further comprising placing the transducer in or on a subject support (such as a seat or bed).

17. A method according to claim 12 ~~any of claims 12 to 16~~ wherein the subject comprises an infant.

18. A method of monitoring a subject, the method comprising

a) acquiring a movement signal from the subject;

b) extracting vital sign information, from the movement signal;

c) analyzing the vital sign information to determine the complexity of the vital sign information; and

d) generating an alarm signal when the complexity falls below a predetermined threshold.

19. A method according to claim 18 wherein step b) comprises determining the fractal dimension of the movement signal, and wherein step c) comprises generating the alarm signal when the fractal dimension falls below a predetermined threshold.

20. A transducer according to claim 1 ~~any one of claims 1 to 6~~ wherein the total area of overlap is less than 50% of the total combined area of the electrodes.

21. A transducer according to claim 20 wherein there is substantially no overlap between the electrodes.

a

22. A transducer according to ~~any one of claims 1 to 10, 20 or 21~~ claim 1 wherein the piezoelectric member is dimensioned so as to be suitable for monitoring a human or animal subject.

add A1